

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (original) A memory device storing a data structure for tracking network behavior, comprising:

a connection table that maps each node of a network to a record object that stores information about traffic to or from the node and between that node and others nodes in the network.

2. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by source address.

3. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by destination address.

4. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by time.

5. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by source address, destination address and time.

6. (original) The device of claim 1 wherein the connection table is a plurality of connection sub-tables each sub-table having data pertaining to network traffic over different time scales.

7. (original) The device of claim 1 wherein the connection sub-tables include a time-slice connection table that operates on a small unit of time and at least one other sub-table that operates on a larger unit of time than the time slice sub-table.

8. (original) The device of claim 7 wherein the at one sub-table holds records received from all collectors over the time scale of the table.

9. (original) The device of claim 5 wherein the addresses indexing the connection table are IP addresses.

10 (Currently Amended) The device of claim 1 wherein the addresses indexing the connection table ~~are~~ include a physical layer ~~layer~~-address to IP address map that is used to determine Host ID.

11. (Currently Amended) The device of claim 1 wherein the host record of a first host ~~also~~ maps to a second host ~~which~~ that communicates with the first host to a "host pair record object" that has information about all the traffic from ~~between~~ the first ~~and~~ to the second host[[s]] and from the second host to the first host.

12. (Currently Amended) The device of claim 1 wherein the connection data-structure table includes two level mapping that enables a consuming device to obtain summary information about one host for a first level mapping and about the traffic between any pair of hosts, in either direction, between a first one of the hosts of the any pair to a second one of the hosts of the any pair and from the second one of the hosts of the any pair to the first one of the hosts of the any pair for a second level mapping. .

13. (original) The device of claim 1 wherein a record stores a measure of the number of bytes, packets, and connections that occurred between hosts during a given time-period.

14. (original) The device of claim 1 wherein data in the record is organized by well known transport protocols and well-known application-level protocols.

15. (original) The device of claim 1 wherein host records have no specific memory limit.

16. (original) The device of claim 1 wherein for application-level protocols and for every pair of hosts, the connection table stores statistics for traffic between the hosts.

17. (original) The device of claim 16 wherein the connection table stores protocol-specific records as (protocol, count) key-value pairs.